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Bosch Rexroth showcases robotics trends and solutions at LogiMAT

Manuela Kessler | 24.02.2026 | Lohr am Main / Germany | PI 003/26

- Open automation solution ctrlX AUTOMATION for robotics
- "Mobile Robots" solution set: preconfigured, modular complete package
- Premiere: mobile humanoid robot on the trade fair booth



At this year's LogiMAT, Bosch Rexroth will be showcasing solutions for mobile robotics and an approach to automating mobile humanoid robots. (Image source: Bosch Rexroth AG)

Mobile robotics is already an established fact in intralogistics, while humanoid robotics is increasingly coming into focus. At this year's LogiMAT, Bosch Rexroth will be presenting a mobile humanoid robot on an AMR platform for the first time. Bosch Rexroth will also be presenting mobile robotics solutions and other humanoid concepts based on the ctrlX AUTOMATION toolkit in hall 8, booth B41.

"There is a growing need in intralogistics to automate an increasingly diverse range of tasks – from transportation and material flow tasks to handling-related activities," says Michael Lippert, Business Development Robotics and Intralogistics at Bosch Rexroth. "While mobile robotics is already widely used productively today, humanoid approaches are becoming increasingly established – especially when flexibility, mobility, and variable tasks are required."

Modular automation as the key to flexible robotics

Robotics applications place high demands on development, integration, and operation. Systems need to be able to be adapted quickly, scaled efficiently, and integrated seamlessly into existing infrastructures. Open and modular automation concepts are a key requirement for this.

With ctrlX AUTOMATION, Bosch Rexroth is pursuing an open platform approach that combines control, drive technology, software, and communication in a modular system. Open standards and interfaces enable users to combine components and functions as required and gradually expand robotic solutions – from mobile platforms to more complex robotic systems.

"Mobile Robots" solution set: rapid start, flexible implementation

The "Mobile Robots" solution set bundles all components into a complete package for AMR solutions. It is based on ctrlX AUTOMATION and combines seamlessly coordinated hardware and software components as well as specialized apps in an open architecture.

Manufacturers and system integrators can thus quickly implement mobile robotics solutions and adapt them flexibly to different application scenarios. Control, drive, communication,

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and software functions can be individually combined and easily integrated into existing IT and automation landscapes. This reduces the engineering work and shortens the time to market. Another focus is on safety and reliability. Safety-certified components support stable and safe operation, even in dynamic intralogistics environments. Supplementary functions such as cloud-based fleet management solutions offer additional options for the efficient operation of modern AGV and AMR fleets.

Humanoid robotics: between vision and industrial practice

Humanoid robotics is becoming increasingly important. Fully humanoid systems are considered promising, but are associated with high mechanical and safety-related complexity. One pragmatic approach is to implement the functions of humanoid robotics step by step without trying to achieve completely humanoid design.

"For many applications, it is not the humanoid appearance that is crucial, but the ability to grab things flexibly, move in space, and perform tasks variably. These functions can also be realized with mobile robot systems in which robot kinematics are used on driverless platforms," says Lippert.

For example, AGVs or AMRs equipped with one or two robotic arms are used. These systems combine the mobility of automated guided vehicles with handling-related functions and thus enable the automation of additional tasks along existing processes. Compared to fully humanoid robots, they offer lower mechanical complexity as well as greater stability and robustness. Bosch Rexroth is currently implementing several customer projects with robot kinematics on mobile platforms and will be exhibiting a mobile humanoid robot based on this development approach for the first time at LogiMAT.

A modular system for different robotics approaches

The implementation of such mobile and humanoid robotics solutions is based on ctrlX AUTOMATION. The central components are the control system ctrlX CORE, drive and motion solutions with ctrlX DRIVE, and apps for navigation, localization, and motion control. The system is supplemented by integrated safety functions, including the new Safety PLC app. Thanks to the modular design, different levels of integration can be realized – from mobile robotics solutions to humanoid concepts on a component basis.

Bosch Rexroth will be showcasing these solutions at LogiMAT in hall 8, booth B41, and providing an insight into the latest developments in mobile and humanoid robotics. The company also presents mobile robotics solutions at SYNAOS' Interoperability Arena in hall 8, booth B61.

Basic Information Bosch Rexroth

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, around 32,600 associates generated sales revenue of 6.5 billion euros in 2024.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 417,900 associates worldwide (as of December 31, 2024). According to preliminary figures, the company generated sales of 90.5 billion euros in 2024. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, electrification, digitalization, connectivity, and an orientation to sustainability. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in

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sensor technology, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture user-friendly, sustainable products. With technology that is “Invented for life,” Bosch wants to help improve quality of life and conserve natural resources. The Bosch Group comprises Robert Bosch GmbH and its roughly 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch’s global manufacturing, engineering, and sales network covers nearly every country in the world. Bosch’s innovative strength is key to the company’s further development. At 136 locations across the globe, Bosch employs some 86,900 associates in research and development, of which nearly 48,000 are software engineers.

Press Contact

Please get in touch with our Press Contact



Manuela Kessler

Spokesperson
technology topics
+49 9352 184145

Manuela.Kessler@boschrexroth.de